

THE IDENTITY OF *ALOE GRACILIS* HAW.
(*NON* BAK).

(WITH PLATE XIII.)

BY G. W. REYNOLDS.

The purpose of this short paper is to establish the identity of *Aloe gracilis* Haw., and to reduce *A. laxiflora* N. E. Br. to synonymy.

A. gracilis Haw., (not to be confused with *A. gracilis* Bak. a synonym of *A. commixta* Berger), was first described by Haworth in the *Philosophical Magazine and Journal* Vol. 66, p. 279 (1825). Haworth's description reads :

"*A. gracilis* (soft distant sword-leaved) foliis subdistantibus effuse incurvo-recurvulis anguste longeque lorato-acuminatis glaucis mollioribus : marginalibus denticulis remotiusculis minutis. Habitat C.B.S. ubi hanc invenit assiduus Bowie."

The flowers are not described, and no locality of origin is stated. Mr. E. Milne-Redhead of Kew, records (*in litt.*) that there is no material of this species in the Herbarium at Kew, while Dr. Pollunin has examined *Aloe* material in the Fielding Herbarium and elsewhere at Oxford, where many of Haworth's specimens are preserved, but without result. There is also no specimen of *A. gracilis* Haw. in Bowie's herbarium at the British Museum (Natural History). It seems, therefore, that there is no type material of this species extant. Nevertheless, the species can be identified, without reasonable doubt, since there is a record of the locality where Bowie collected the specimen, and there is also a painting at Kew of a sterile shoot of Bowie's plant.

In the *South African Quarterly Journal* Vol. I, pp. 90-91 (1830), an account is given of three *Aloe* spp. and five *Gasteria* spp., with descriptions and localities where Bowie collected them. One of the *Aloe* spp. is :

"*Aloe gracilis* (soft distant sword-leaved *Aloe*) leaves sheathing the stem, placed at a distance from each other, incurved, narrowing towards the point and bending downwards, sea green, smooth, margins set with smooth remote teeth.—*Aloe gracilis* Haworth in *Phil. Mag.* Oct. 1825. "This species with slender stems about five feet high, was found on the hills near Camtoos River, and also near the stone quarries of Uitenhage, growing among the rigid and more woody productions of a Karoo soil. Habitat given by Mr. Bowie."

This establishes the locality of origin. The hills nearest to the Gamtoos

River lie to the east, *i.e.* the Van Stadens, while the old stone quarries were, it is stated, near Uitenhage. A further and most important clue to the identity of *A. gracilis* Haw. is provided by some paintings preserved at Kew, (attributed to Franz Bauer) of Bowie's material. Mr. E. Milne-Redhead also records (*in litt.*) that among the standard collection of drawings at Kew, of Bowie's material, there are paintings of *A. ciliaris* Haw.—a sterile shoot; *A. striatula* Haw.,—a flowering shoot; and *A. tenuior* Haw.—a flowering shoot. In a supplementary collection on larger sheets there is a painting of a sterile branch from Bowie's plant of *A. gracilis* Haw. Due to the kindness of Sir Edward Salisbury, Director of the Royal Botanic Gardens, Kew, in furnishing me with a photograph of the painting of Bowie's material, I am fortunately able to reproduce it here (Plate XIII, Fig. 1).

Sir Edward also kindly supplied me with photographs of the paintings of Bowie's material of *A. striatula* Haw., *A. ciliaris* Haw., and *A. tenuior* Haw., and on collation, there is no doubt whatever that *A. gracilis* Haw., is very distinct, and cannot be confused with *A. ciliaris*, *A. striatula*, or any other closely allied species.

N. E. Brown in his original description of *A. laxiflora* in *Gard. Chron.* I, p. 130, March 3, (1906) gives no locality of origin; he merely states that:

"It was sent by Mr. T. G. Griffiths of Port Elizabeth, Cape Colony, in 1897 to Kew Gardens, where it flowered in December 1902."

In their wild state at Witteklip Gorge (Van Stadens), and near Groendal, plants flower in May—June. Witteklip (Van Stadens) is about twenty miles west of Port Elizabeth, while Groendal Dam lies about fifteen miles to the north, at the eastern end of the Winterhoek Mountains, and about eight miles north-west of Uitenhage.

From Bowie's locality of origin, from the painting of Bowie's original material, and from the knowledge of the species found to-day at Witteklip Gorge and Groendal, there is no reasonable doubt that *A. gracilis* Haw. and *A. laxiflora* N. E. Br. are clearly conspecific. It therefore follows that *A. gracilis* Haw. must be upheld, and *A. laxiflora* reduced to synonymy.

The following is the synonymy, with a description based on plants from Witteklip and Groendal:

A. gracilis Haw. (*non* Bak.) in *Phil. Mag.* Vol. 66, p. 279, (1825); R. & S. *Syst. Veg.* p. 706 (1829); *S.A. Quart. Journ.*, Vol. I, pp. 90-91, (1830); Kunth *Enum.* p. 531 (1843); *non* Bak. in *Journ. Linn. Soc.* p. 170 (1881).—*A. laxiflora* N. E. Br. in *Gard. Chron.* I. p. 130 (1906); Berger in *Engler Pflrch. Abh.* p. 255 (1908);

Fl. Pl. S.A., Vol. VIII, Plate 303 (1928).

Description: A shrubby plant, branched at ground level, with stems erect, about 2cm. diam., up to 2met. long, the terminal 50cm. laxly foliate, with leaves basally amplexicaul, the internodes (sheaths) faintly pale green striate, 10—15mm. distant. *Leaves*: dull green, without spots, not auriculate, not ciliate around the sheathing part, narrowly lanceolate, horizontally spreading, up to 25cm. long, 25mm. broad low down, the upper two thirds gradually acuminate; upper surface flat low down, slightly canaliculate upwards; lower surface slightly convex; margins with a slightly cartilaginous edge armed with firm white teeth up to 1mm. long 2—5mm. distant, more crowded low down, becoming obsolescent near apex. *Inflorescence* simple or 1—2 branched, 20—30cm. high including the raceme. *Peduncle* laterally compressed low down with a few sterile bracts. *Racemes* cylindrical, slightly conical, about 10cm. long, sub-laxly 20—30 flowered, the flowers at length pendulous. *Bracts* narrowly deltoid-acuminate, 5mm. long, 2—3mm. broad at base. *Pedicels* 8mm. long. *Perianth* bright red to scarlet, yellowish at mouth, 4—4.5cm. long, cylindric slightly trigonous, slightly decurved. *Outer segments* connate into a tube for about 30mm., the apical 10—12mm. free, with three greenish nerves at apex, apices subacute, straight to slightly spreading. *Inner segments* free, not cohering dorsally to the outer, broader than the outer, with thin white edges and three congested orange nerves forming a keel, apices brownish and more obtuse than the outer. *Filaments* yellow, filiform-flattened, the three inner narrower and lengthening in advance of the three outer. *Anthers* included, or exserted 1—2mm. *Stigma* included, sometimes exserted 1—2mm. after pollination. *Ovary* 5mm. long, 2.5mm. diam. at middle, tapering a little into the style.

A. gracilis Haw. is nearest allied to *A. striatula* Haw. in general habit of growth, but is separated by its different racemes and flowers. Its flowers resemble those of *A. ciliaris* Haw., but the latter is very distinct with its leaves basally auriculate and ciliate.

I am indebted to Sir Edward Salisbury, Director of the Royal Botanic Gardens, Kew, for photographs of paintings of *A. gracilis* and some other species collected by Bowie and described by Haworth; to Mr. E. Milne-Redhead of Kew for information and data concerning Bowie's specimens; to Mr. F. R. Long for sending several plants to me from Van Stadens, with notes and data, and to Mr. H. Basil Christian of Arcturus, Southern Rhodesia for notes and plants sent from near Groendal Dam, Uitenhage district. Photographs of these plants, taken when they flowered in my gardens in Johannesburg, are reproduced herein (Plate XIII, figs. 2—4). Unfortunately this distinctive and charming species will not withstand severe frosts.



FIG. 1.

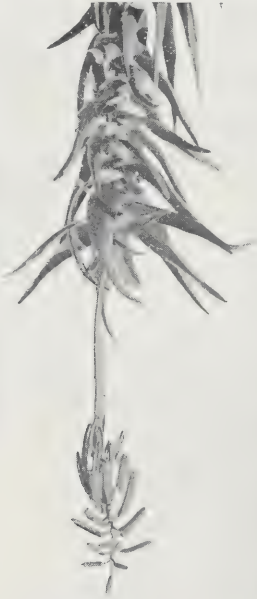


FIG. 2.



FIG. 3.

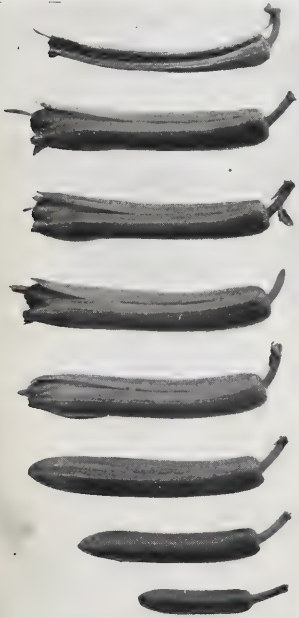


FIG. 4.

PLATE XIII.

Aloe gracilis Haw.

FIG. 1. An unpublished printing by Franz Bamer, in the Collection of Drawings in the Kew Herbarium, of the original plant sent by Bowie to Kew. —From a photograph kindly supplied by Sir Edward Salisbury, Director of the Royal Botanic Gardens, Kew.

FIG. 2 : A plant from Wittekip Gorge, Van Stadens, fl. 31 May, 1937 in Johannesburg.

FIG. 3 : A plant from Groendal near Uitenhage, fl. 25 June, 1937, in Johannesburg.

FIG. 4 : Flowers 1/1 from bud to post-pollination stage.

—Photos : G. W. Reynolds.



FIG. 1.

Aloc myriacantha (Haw.) Roem. & Schult.

An unpublished painting at Kew, of the material sent to Kew by Bowie. The inscription reads "Imported in 1823 from the Cape of Good Hope by Mr. Bowie."

From a photograph kindly supplied by Sir Edward Salisbury, Director of the Royal Botanic Gardens, Kew.



FIG. 2.

A. myriacantha (Haw.) Roem. & Schult.

Plant in natural habitat at Coldspring, near Grahamstown, Albany Div. Height 30cm. Fl. 3 March, 1935. Plant approx $\times 1/4$. Raceme and flowers natural size.

Plant near Cato Ridge, Natal. Height 35cm. Fl 20 Feb. 1940. (Leaves 8, racemate). Plant approx. 2 x. Raceme and flowers natural size.

Photos: G. W. Reynolds.

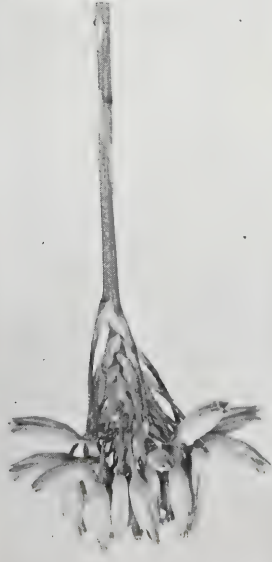


Fig. 1.

A. minima Bak.

PLATE XV.

Plant in natural habitat on mountain slopes near the Blyde River, north of Pilgrims Rest, Eastern Transvaal. Height 35cm. Fl. 15 Feb. 1940. (Leaves 5, distichous). Plant approx. $\times 1/4$. Raceme and flowers natural size.

Photos: G. W. Reynolds.

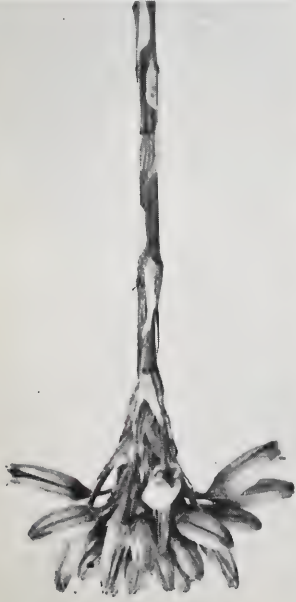


Fig. 2.

A. minima Bak. var. *hygisterensis* (Groen) Reynolds.

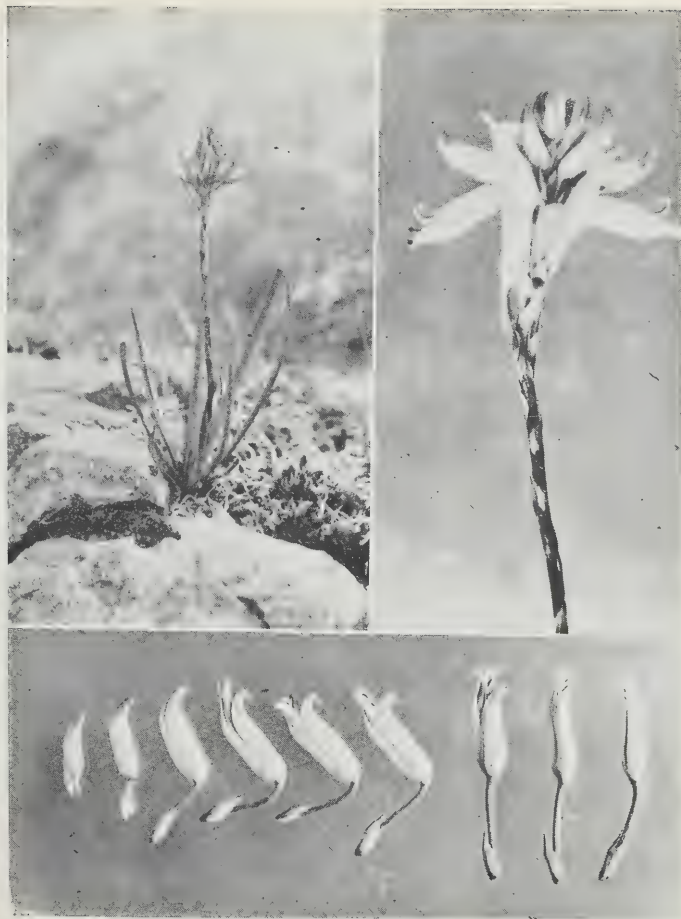


FIG. 1.

A. albida (Stapf) Reynolds.

Plant (in bud) on southern slopes of the Angle Station Mountain, 15 miles south of Barberton, Eastern Transvaal. Height 18cm. Fl. 30 March, 1940. Plant, approx. $\times 1/3$. Raceme and flowers natural size.

Photos ; G. W. Reynolds.



FIG. 2.

A. Saundersiae (Reynl.) Reynolds.

Plant in natural habitat, 1 mile north of Nkandhla Forest, Zululand. Fl. 8 March, 1939. Height 17cm. Plant approx. $\times 2/5$. Raceme and flowers natural size.

Photos ; G. W. Reynolds.

PLATE XVI.